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**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/290,046 04/12/99 IINO

A S004-3645

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MM91/0110

EXAMINER

BUDD, M

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

01/10/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

290046

Applicant(s)

Iino et al

Examiner

M. Budd

Group Art Unit

2934

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

☒ Responsive to communication(s) filed on \_\_\_\_\_.

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

☒ Claim(s) 1-14 and 22-51 is/are pending in the application.

Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☒ Claim(s) 5, 33 and 34 is/are allowed.

☒ Claim(s) ~~1-4~~, 1-4, 6-14, 22-32 and 35-51 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_.

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 22-32 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izukawa Kataoka or Saloman in view of Iimo (955) or Iimo (138).

Each of Izukawa Kataoka and Saloman teach a vibration motor using polarized piezoelectric material for drive and detection electrodes. The drive circuits are not explicitly self-oscillating. Iimo (138) and (955) teach it is advantageous to drive piezoelectric vibration motors with self-oscillation circuitry to yield stable operation and use less power. Thus, for at least these reasons it would have been obvious to one of ordinary skill in the art to provide Izukawa, Kataoka or Saloman with self-oscillating drive circuitry.

Claims 6-14 and 33-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawazaki in view of Shirasaki or Ohtsuchi and combined with Inio (955).

Okazaki teaches the specific piezoelectric vibration motor structure with a drive circuit. However, Okazaki does not use a self-oscillating feed back drive circuit. As noted above Iimo teaches reasons to use a self-oscillation drive circuit. Shirasaki and Ohtsuchi teach using feedback circuitry, including polarized piezoelectric detection electrodes to achieve frequency stability even drive force etc, etc. Thus for each of the known reasons it would have been

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obvious to one of ordinary skill in the art to provide Ohtsuchi with a self-oscillating drive circuit using polarized piezo feedback elements.

Claims 48-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are vague and indefinite in that "the detecting polarized portion" and "the driving polarized portion" have no proper antecedent basis.

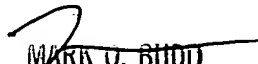
Claims 5, 33 and 34 are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Budd/ds

01/05/01

  
MARK O. BUDD  
PRIMARY EXAMINER  
ART UNIT 212